UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,199	11/18/2003	Robert M. Perego	70205/11:1	6247

3528	7590	01/17/2006

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EXAMINER
KO, DANIEL BOKMIN

ART UNIT	PAPER NUMBER
2189	

DATE MAILED: 01/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/717,199	PEREGO, ROBERT M.
	Examiner	Art Unit	
	Daniel B. Ko	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _18 November 2003_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-6_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-6_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _18 November 2005_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _10/12/2005_.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

This action is responsive to the application filed on 11/18/2003. Claims 1-6 have

been submitted for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1- 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Crockett et al. (US Patent 6,578,120 B1), hereinafter simply Crockett and Tzelnic et al.

(US Patent 6,366,987 B1), hereinafter simply Tzelnic.

Regarding claim 1, Crockett teaches a method comprising the steps of:

a) assessing the source data set to be migrated, the volume(s) it resides on, and the total space it occupies (column 7, lines 65-67; column 8, lines 13-16);

b) allocating space for a corresponding target data set using the total source space as a primary allocation request and using the original source data set name (column 8, lines 16-24);

c) designating one or more target locations in the allocated space and assigning each source data set extent location to a respective one or more of the designated target locations (column 10, lines 8-12);

d) starting monitor programs on any images that can write to any of the identified source volumes in order to detect a subsequent change to the source data set (column 8, lines 23-26);

e) storing an indication of each source data set track detected by a monitor program as having changed (column 10, lines 26-29);

f) begin copying the source data set in accordance with said assignment of each source data set extent so as to form the corresponding target data set (column 7, lines 21-23; column 9, lines 28-32);

g) while copying the source data set, periodically re-synchronizing source and target tracks detected by the monitor programs as having changed after having been previously copied (column 9, lines 47-48);

h) upon substantial completion of said copying, signaling the said application programs that closing the source data set is requested (column 8, lines 30-32; It is clear

that storage control unit 3990 can signaling the application program when the copying

completed);

i) recognizing that the source data set is closed thereby commencing a down

time window (column 5, lines 30-35; Crockett discloses suspending the primary volume

which is equivalent to down time of source data set);

j) during the downtime window, finally re-synchronizing the source and target

tracks detected by the monitor programs as having changed after having been

previously copied (column 10, lines 64; column 11, lines 1-3);

k) during the downtime window, accommodating allocation differences that

occurred since the initial assessment of the source data set (column 10, lines 38-43);

m) signaling the application(s) that the target data set may be opened, thereby

terminating the down time window (column 5, lines 42-60; Crockett discloses

resynchronization and sending update to the secondary control unit. So, it is clear that

the secondary storage control unit 3390 can signaling the application that target data

set maybe opened).

Crockett fails to teach changing catalog entries to reflect new target data.

Tzelnic teaches changing catalog entries to reflect new target data set (column

16, lines 1-5; column 18, lines 41-45).

At the time of invention it would have been obvious to a person of ordinary skill in

the art to combine the Crockett with Tzelnic. The motivation for doing so would have

been an improved storage access performance (See Tzelnic, column 25, lines 60-66). Utilizing the catalog in order to access the data would improves the storage access performance.

Regarding claim 2, Tzelnic teaches a method wherein said designating one or more target locations in the allocated space and assigning each source data set extent to a respective target location includes constructing a cylinder/track translate table having an entry for each extent of the source data set (column 12, lines 64-67; column 13, lines 1-12).

Regarding claim 3, Crockett teaches a method wherein said accommodating allocation differences includes detecting and accommodating a persistent data set (column 8, lines 23-32).

Regarding claim 4, Crockett teaches a method wherein said accommodating allocation differences includes detecting and accommodating a new source data set added during the mirroring process (column 5, lines 34-46; Crockett's update to the primary track can includes adding a new source data).

Regarding claim 5, Crockett teaches a method wherein said accommodating allocation differences includes detecting and accommodating a source data set deleted

during the mirroring process (column 5, lines 34-46; Crockett's update to the primary

track can includes deleting a source data set).

Regarding claim 6, Crockett teaches a method wherein said accommodating

allocation differences includes detecting and accommodating extent changes to data

sets included in the mirroring process (column 5, lines 34-46; Crockett's update to the

primary track can includes changes to data sets).
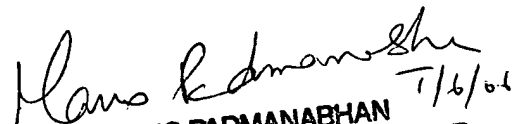
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel B. Ko whose telephone number is 571-272-8194.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Manorama Padmanabhan can be reached on 571-272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MANO PADMANABHAN
SUPERVISORY ~~~~~~

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